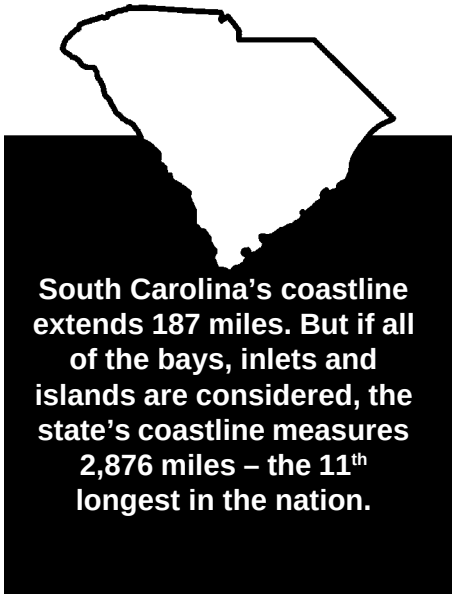
FYI
DHEC's Office of Solid Waste Reduction and Recycling
For Your Information...

Marine Debris

Think there is only litter on highways, sidewalks and school yards? Think again.

Litter also is a significant problem along shorelines, coastal waters, estuaries and oceans throughout the world. This type of litter – called marine debris – happens when we dump materials into waterways or indirectly when materials are washed out to sea via rivers, streams, storm drains and sewage overflows.



South Carolina's coastline extends 187 miles. But if all of the bays, inlets and islands are considered, the state's coastline measures 2,876 miles – the 11th longest in the nation.

Marine debris poses a serious threat to human health and the environment. It has the potential to be life threatening to marine organisms and can damage or destroy the fishing industry in a specific area.

Sources of Marine Debris

There are two sources of marine debris. The first is land-based sources and includes people who litter on the beach, in or near a river, sewer overflows and storm water run-off. Typical debris from these sources includes litter – much of which can be recycled (plastic soft drink bottles, aluminum cans, glass bottles, etc.) – as well as medical waste and sewage. Land-based sources account for about 80 percent of the marine debris found on our beaches and waters according to the U.S. Environmental Protection Agency (U.S. EPA). The second source is from the ocean. This type of debris includes galley waste and other trash from ships, recreational boaters and offshore oil and gas exploration facilities.

The overall problem is made worse by two other factors. First, more and more people live or vacation by the water and create more waste. Second, it's the type of waste we are generating – particularly plastic.

Plastic debris threatens marine animals.

Clearly, there are many sources and types of marine debris, but plastic plays a significant role. The very properties that make plastics useful – their light weight and durability – are at the root of the problems they cause to marine life. Plastic disposed of in the ocean not only lasts for a long time, but it also floats and can be moved by ocean currents for long distances to beaches and biologically productive coastal waters. Plastic contamination of ocean waters is a fairly recent concern – it probably has grown as a direct result of the enormous growth in plastic production during the past 30 to 50 years.

Every year millions of seabirds, sea turtles, fish and marine mammals become entangled in marine debris or ingest plastic that they have mistaken for food according to the U.S. EPA. As many as 30,000 northern fur seals become entangled in abandoned fishing nets each year and either drown or suffocate. Whales mistake plastic bags for squid. Birds mistake plastic for food as well.

What happens? The plastic constricts the animals' movements or kills the animal through starvation, exhaustion or infection from deep wounds caused by the tightening materials. The animals may starve to death because the plastic clogs their intestines preventing them from eating. The toxic substances that are in plastic may cause death or reproductive failure in fish, shellfish and wildlife.

Once the debris reaches the bottom of the ocean – particularly in areas with little current – it may continue to cause environmental problems. When plastic film and other debris settle, it may suffocate

immobile plants and animals producing areas essentially without life. In areas with currents, marine debris can wrap around living coral – smothering the animals and breaking their coralline structures.

Marine debris also impacts fishing and recreational boats by entangling propellers and clogging cooling water intake valves. The repair of boats damaged by marine debris is time consuming and expensive.

Marine debris may harm people, too.

Beach goers may be injured stepping on broken glass, cans, needles or other litter. Swimmers and divers also may become entangled in fishing line and abandoned netting. Sewage overflows can make it unsafe to swim. The release of toxic substances may make it unsafe to eat the fish in that area. Just the appearance of marine debris has economic consequences of lost tourism and of government spending money to remove debris. New Jersey, for example, spends about $1.5 million annually to clean up its beaches.

There is worldwide effort not only to clean up marine debris but also to bring attention to the issue and change the behavior that results in this type of litter. The Ocean Conservancy – with help from the U.S. EPA and others – set up the annual International Coastal Cleanup (ICC). The ICC – now in its 19th year – held on the third Saturday in September every year and is the largest one-day volunteer effort to clean up the marine environment. It's a day at the beach that makes a world of difference. In 2003, more than 450,000 volunteers from 91 countries removed more than 7.5 million pounds of trash from more than 16,250 miles of shoreline – about two-thirds of the circumference of the earth. Divers collected more than 185,000 pounds of trash under water. Volunteers found 237 animals entangled in debris. Fishing line and nets accounted for almost 42 percent of these incidents. For more information about the ICC, visit **www.coastalcleanup.org**.

In South Carolina, the annual Beach Sweep/River Sweep organized by the S.C. Sea Grant Consortium and the S.C. Department of Natural Resources is part of the ICC. In 2003, nearly 3,000 volunteers removed more than 14 tons of trash from the beaches, marshes and waterways.

The problem of marine debris can be solved.

Reducing marine debris means reducing the amount of waste we generate and disposing of it properly. Don't litter. If you see litter, pick it up and recycle, if possible. If not, dispose of it properly. Cut the rings of six-pack holders – this lowers the risk of entanglement if the holder makes it out to sea. Participate in local beach, river and coastal clean ups.

Beach Sweep/River Sweep

For more information on how you can volunteer for the annual Beach Sweep/River Sweep in South Carolina, write the S.C. Sea Grant Consortium, 287 Meeting Street, Charleston, SC 29401 or on-line visit **www.scseagrant.org**. You also can write the S.C. Department of Natural Resources, Rembert C. Dennis Building, 1000 Assembly St., Columbia, SC 29201 or on-line visit **www.dnr.state.sc.us** and click on programs.

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